

- 3 MAR 1994



AUSTRALIA TELESCOPE NATIONAL FACILITY

FILE AT. 39.3/03.5		
A.T.N.F.	Action	cc
R. D. EKERS	RLC	
J. W. BROOKS		
J. B. WHITEOAK		
J. WILKINSON		
T. P. NORRIS		

MEMORANDUM TO: John Brooks

FROM: Lister Staveley-Smith

DATE: 3 March, 1994

SUBJECT: Multibeam Project

I am sorry to have to query a couple of points you raise in your memo to Ron Ekers (95/94), namely:

- "...we made a conscious decision in September (?) 1993 to shelve the project for a year". The Director reported at the ATUC meeting on November 11, 1993 that the 1993/4 allocation of \$90k would be carried forward to 1994/5 and the level of manpower reduced from 2 man years to 1 man year. As you know we also have \$100k of external (ARC) funding for calendar year 1994.
- "I am somewhat concerned at the expectation levels at both Jodrell and Wales..". At the time of the original SERC application in February 1993, it was agreed by the two Directors that Jodrell Bank would build the amplifiers for the Parkes multibeam system. There was quite obviously an expectation from them that the rest of the system would be built by us. Since then, it has become apparent that there is no easy way of constructing a single system for both telescopes, without compromising performance on the Parkes telescope. This information has been passed back to the UK.

Whether or not they continue to proceed with their application will depend on whether they believe they can build a separate feed and dewar system. However, their expectations from us were laid down at the multibeam meeting on February 23, 1994 attended by RDE,WEW,JWB and LSS. I enclose the FAX sent to Jodrell Bank as a result of this meeting. I also enclose a FAX sent the same day to Mike Disney, which again states our intentions clearly.

cc: R.D. Ekers

FAXED
24 2.94

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TO: Prof. Rod Davies
FAX: 0015-44 477 71618, 0015 34/26 30 05
FROM: Lister Staveley-Smith (LSTAVELE@atnf.csiro.au)
DATE: February 23, 1994
SUBJECT: Multibeam receiver
PAGES: Page 1. of 2

Dear Rod,

Following a planning meeting today, I can now answer your queries.

ITEM 5: Most of the correlator to be used for the Parkes survey belongs to the LBA correlator which is due for completion soon. This cannot be moved to the Lovell. However, it might be possible to ship the 4 extra blocks which are to be constructed for the multibeam project and to leave them for a short period of time. At this stage, we unfortunately can't guarantee this, but I think there is a good chance. Each of these blocks is capable of giving 512 autocorrelation channels at 64 MHz or 1024 channels at 32 MHz. It may also be possible to ship some of the other backend equipment (samplers, conversion), but you will have to take care

of filtering to your proposed bandwidth of 32 MHz and data transmission.

ITEM 7: No other countries involved. About 50% of the Australian contribution has been approved so far. We are confident about the remainder.

ITEM 8: Measures are being taken to isolate the interference at low frequencies. No problem is expected at 1.4 GHz.

I hope that this is sufficient for your re-application, if you proceed. Our current timescale is to have the receiver on the Parkes telescope in 1996. The survey will not be completed until 1998, but there may be a gap in 1997 where equipment could be shipped. However, at the moment we are assuming that the Parkes receiver will be unusable at the Lovell because of f/D and weight constraints, so the SERC re-application should include additional costs for a second feed system and dewar. We will proceed with design and production of strip-line amplifiers this year, so perhaps these could also be used in the northern survey.

Regards,

Lisk

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TO:	Michael Disney
FAX:	0015-44 222 874056
FROM:	Lister Staveley-Smith (LSTAVELE@atnf.csiro.au)
DATE:	February 23, 1994
SUBJECT:	HI MULTIBEAM PROJECT
PAGES:	Page 1. of 2

Dear Michael,

Time to catch up on some multibeam news. The ARC gave us \$100k for the project for calendar year 1994. Not enough, but we are starting to build and to commit future telescope time. We will of course apply for more money. At the moment we are assuming that we are proceeding without SERC money. I gather that the application has failed on the second attempt. It also seems that it will be impossible to mount the Parkes system on the Lovell telescope because of the weight and f/D constraints, so a second more-or-less independent receiver will be required. The most it seems that could be shared is the amplifiers. It is not even sure we can send much in the way of correlator (most of which belongs to the LBA project).

What is your opinion of the likelihood of future funding from the SERC? I think it is important to survey both hemispheres. Did

anything become of your separate application to the Welsh
Funding Agency ?

Regards,
Lister Staveley-Smith